Urban Areas Security Initiative Port Security Grant
Advanced Communications and Information Technologies

Project Overview

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Outline

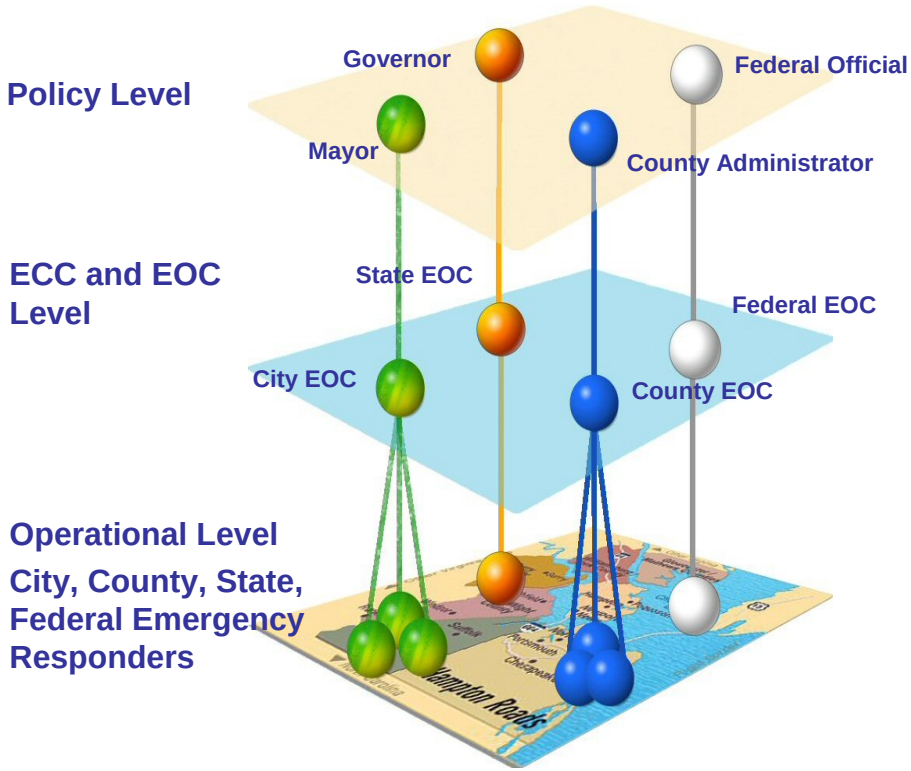
- Project Objectives
- Designing and Building the Network
- The Future
- Summary

Broad Objectives

- Enhance the ability of local government officials to communicate with the **Federal and State agencies** involved in urban areas and port security
  - Requires interoperability at all three levels: policy, ECC/EOC, and operational (first responders)
- Enhance **vertical communications** between first responders, EOCs and policy-level officials in response to large-scale emergencies affecting multiple jurisdictions
- Enhance capability to **inform the public** during a major emergency
  - Initial alerting of public, amplifying information and emergency instructions, and public statements by elected and other senior officials

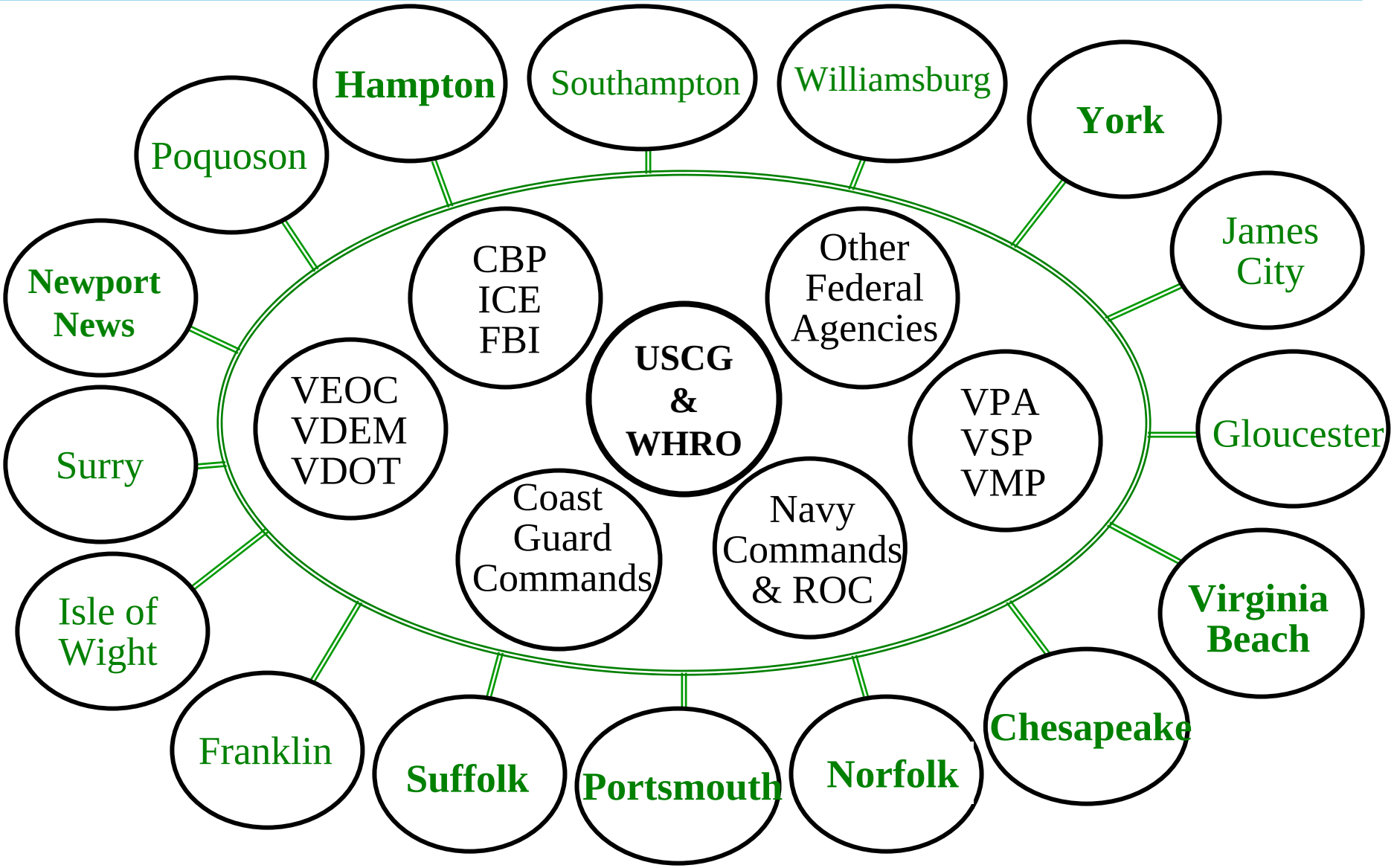
Overview of Regional Architecture: Multi-Level Interoperability

- Large-scale emergencies require survivable, dedicated communications at three levels:
  - Certain decisions, such as evacuation, calling up national guard or declaring a disaster area, require consultation among senior officials
  - Emergencies affecting multiple jurisdictions require coordination among EOCs even if mutual aid is not required
  - Emergencies requiring mutual aid require interoperable voice communications among first responders
- Rapid, survivable vertical communications links vital
- Rapid, survivable, broad coverage public information



The Three Levels of Coordination

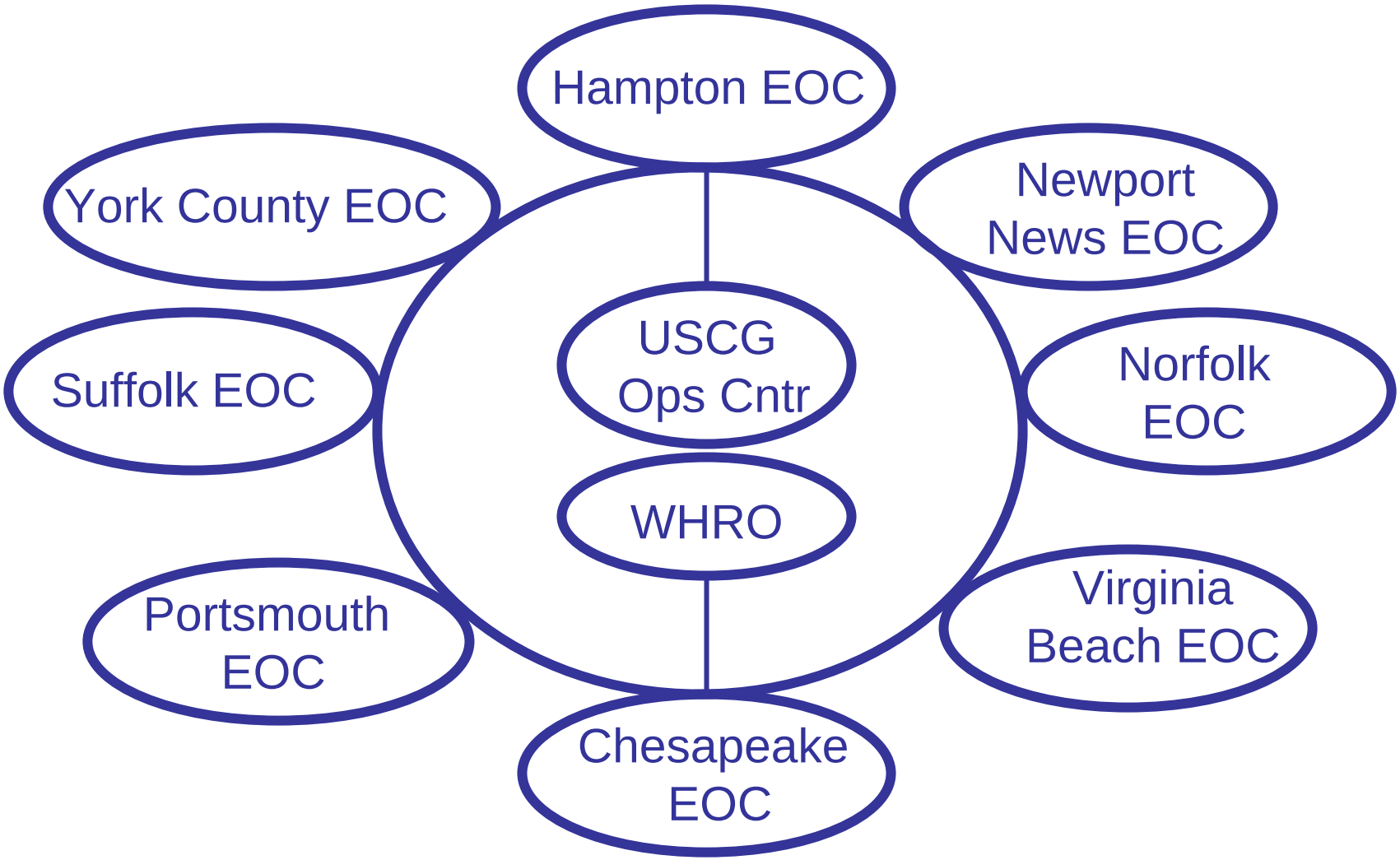
The Players - Hampton Roads Regional Emergency Network



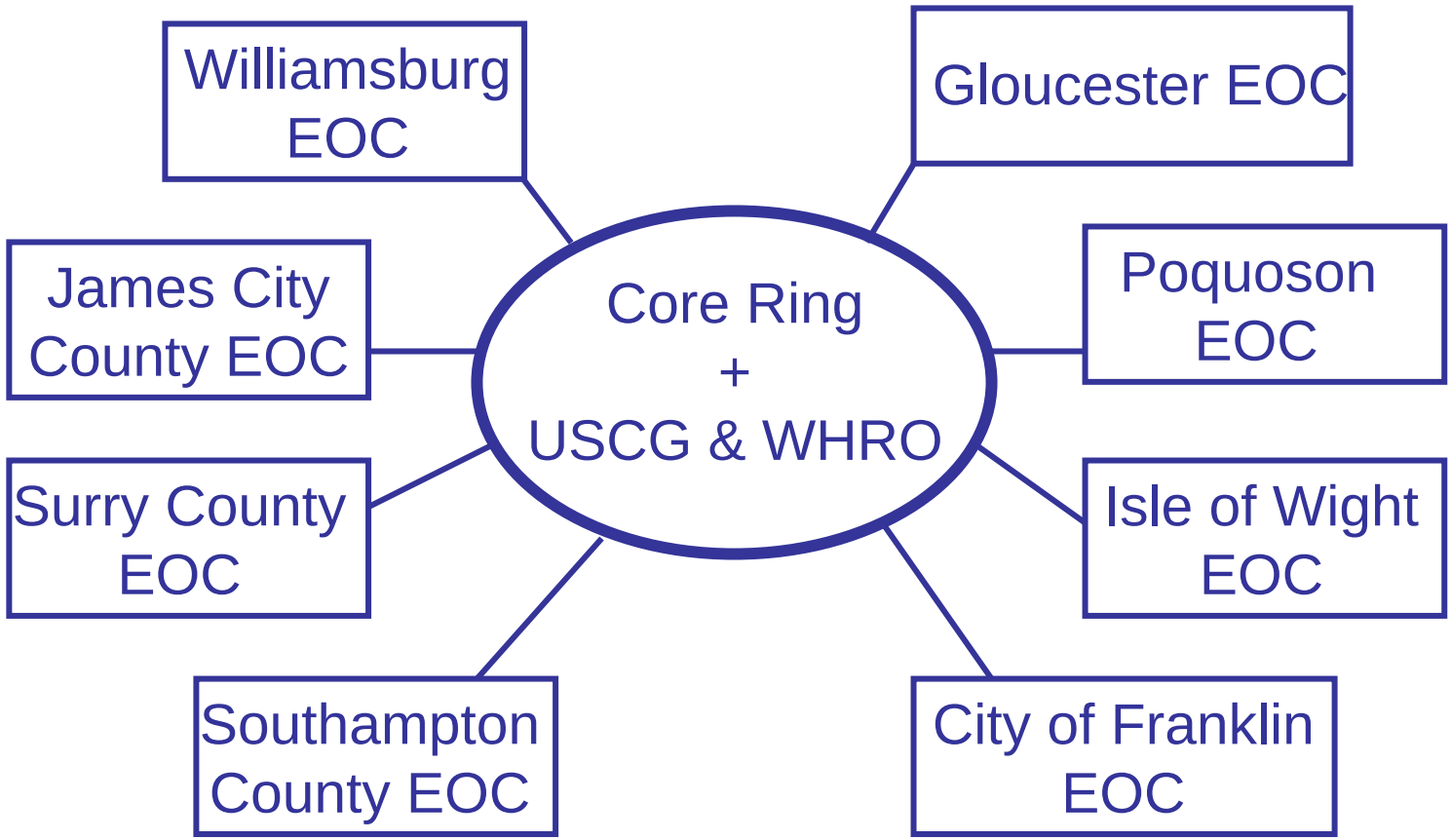
System Capabilities

- Regional Microwave System provides a common solution for:
  - Highly survivable microwave ring, connecting EOCs
  - Voice Communications and Collaborative Planning
  - Radio Interoperability and patching
  - Shared data Access and Transfer
  - Video Teleconferencing
  - Emergency Notification between users
  - Enhanced public information dissemination via WHRO facilities

The Core Objective



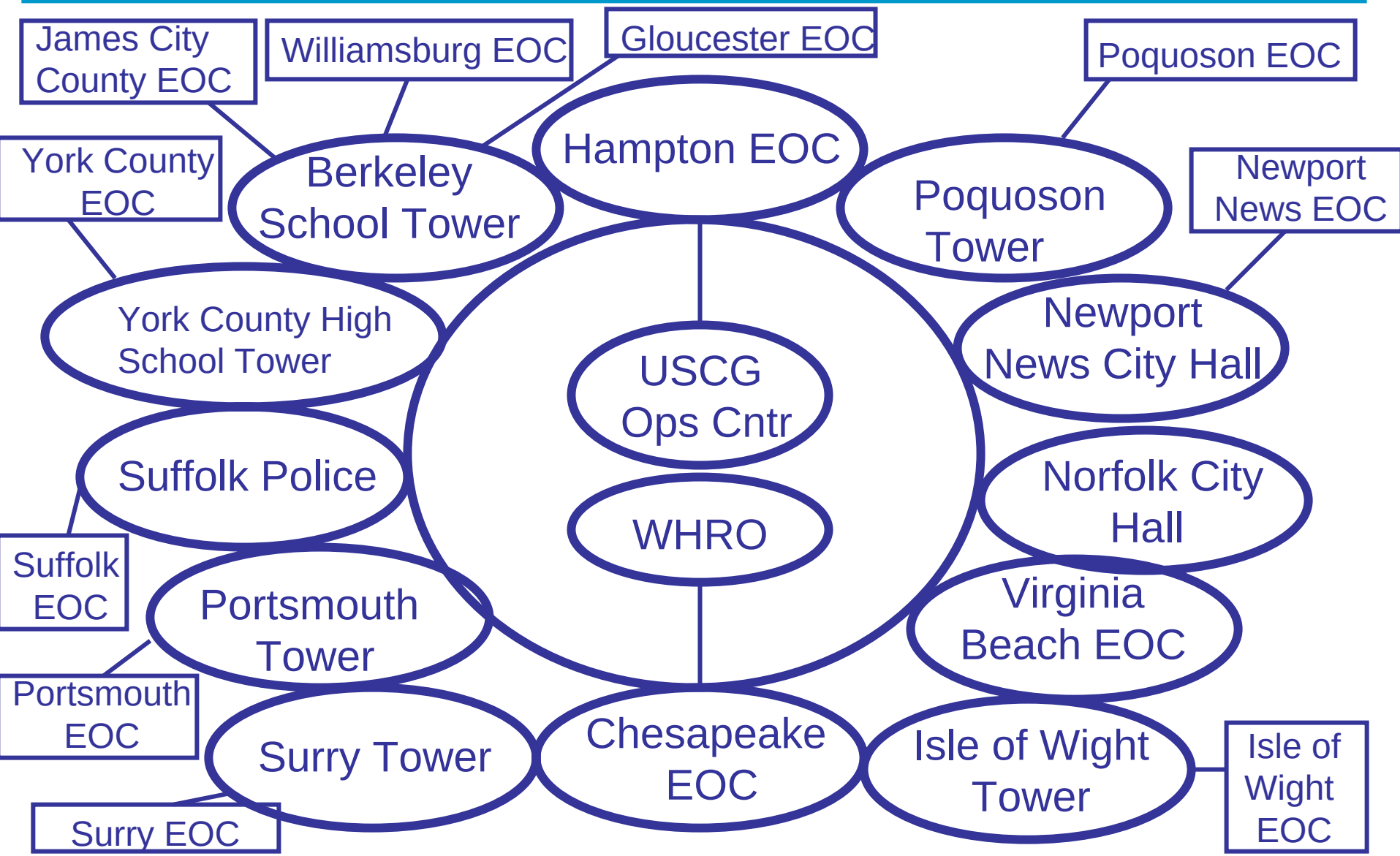
Completing our Objective



Procurement Process

- Full and open competition for the microwave network
  - Cities and counties to provide appropriate tower and shelter facilities for equipment
  - RFP released November 23, 2004
- Must bid minimum of 8 core sites, WHRO and USCG
- Five vendors offered bids
- Down select to Harris Corporation and Alcatel USA
- Final award to Alcatel for $4.06M covered all sites
- Initial order for site surveys/microwave path analysis sent on March 31, 2005
- All follow-on purchase orders through HRPDC

The Proposal



Proposal Elements

- Included all sixteen cities and counties, plus WHRO and USCG
- Brought OC-3 bandwidth closer to more sites
- Minimum of DS-3 to spur sites
- Set of internet protocol services from voice to video
- Towers assumed to be available

Design Process

- Used candidate towers from RFP
- Conducted path analysis to determine line of site and height of proposed antennas
- Accomplished tower analysis to determine structural integrity
- Iterative process used until solutions found

The Results

- Process shows towers are a critical asset, drives the schedule
- 20 towers formally surveyed
  - 3 failed and not cost effective to improve for network load
  - 1 tower at EOC location not usable, sharing existing path
  - 3 require structural work to meet accepted parameters
  - 3 new towers under construction
- 2 commercial leases required to offset lack of government towers
- 1 commercial tower required structural work to support regional network under no cost lease
- Could not connect four sites from available towers – one moved to Phase 2, two connected with land line, one solution pending

HAMPTON ROADS
PLANNING DISTRICT COMMISSION

Schedule

- Installation of microwave equipment begins end of October
- Core network complete by end of December
- Remaining sites complete by end of February 2006

The Budget

- Beginning balance - $6.1M
  - Alcatel - $4.06M – equipment, installation, 3 year field service support
  - ZelTech - $600K – integration/engineering support
  - WHRO - $706K – facility investment
  - Tower/facility investment - $336K
  - Request for radios - $150K

- Some cost avoidance will be recognized due to use of buried fiber in lieu of short microwave links

Life Cycle Issues

- Using local facilities to greatest extent possible – towers were critical
- Fiber cable links installed where possible to meet the last mile
- Tower leases at Surry and Portsmouth leased three years
- Maintenance and support services prepaid for three years

The Future

- Compete for additional grants
  - Bring remaining regional government users into the network
  - Improve coverage in port security arena
  - Include other response and recovery players
- Refine our governance model to maximize utility and responsiveness
- Target efficiencies created in using common tool set across the region

Summary

- The regional network provides common solutions and brings interoperability
- Regional interoperability provides the platform for improvements in response and recovery processes
- Process improvements increases efficiency and avoids duplication of effort and miscommunication
- Looking forward toward wider integration of our efforts with state programs


ORION

ORION
COPS Interoperability

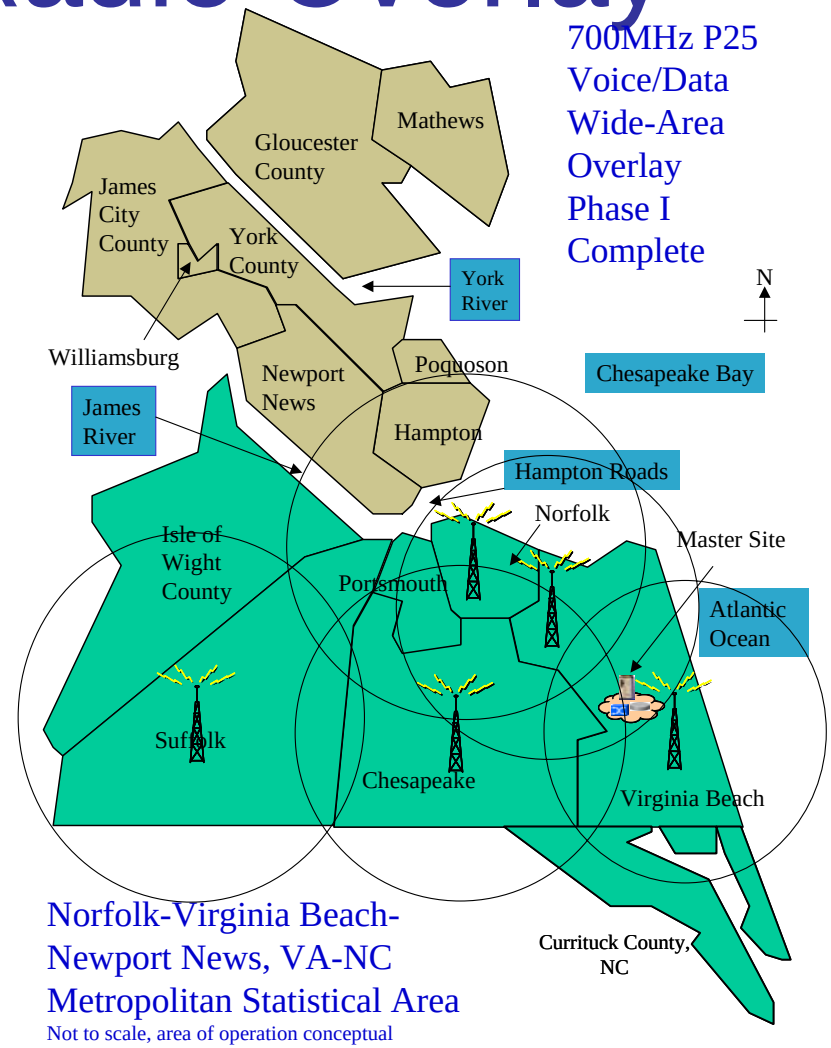
- Full Name: **COPS Interoperable Communications Technology FY2004 Program**
- Awardee: **City of Virginia Beach**
- Amount: **$6,000,000 Federal Funding**
  $2,000,000 City of VB Match
- Timeframe: **Awarded in September 2004**
- Extension: **September 2006**
- Participants: **Phase 1 – Norfolk, Portsmouth, Chesapeake, Suffolk, and VB**
  Phase 2 – Hampton & Newport News

ORION
What is Included?

- ORION - Overlay Regional InterOperability Network
  - P25 Master Switch in CVB
  - 700MHz proposed
  - 800MHz - optional
  - 700/800MHz P25 Mobile Radios for Command Vehicles
- Improved IP Data and Mobile
  - 900MHz proposed
  - MDT for Command Vehicles

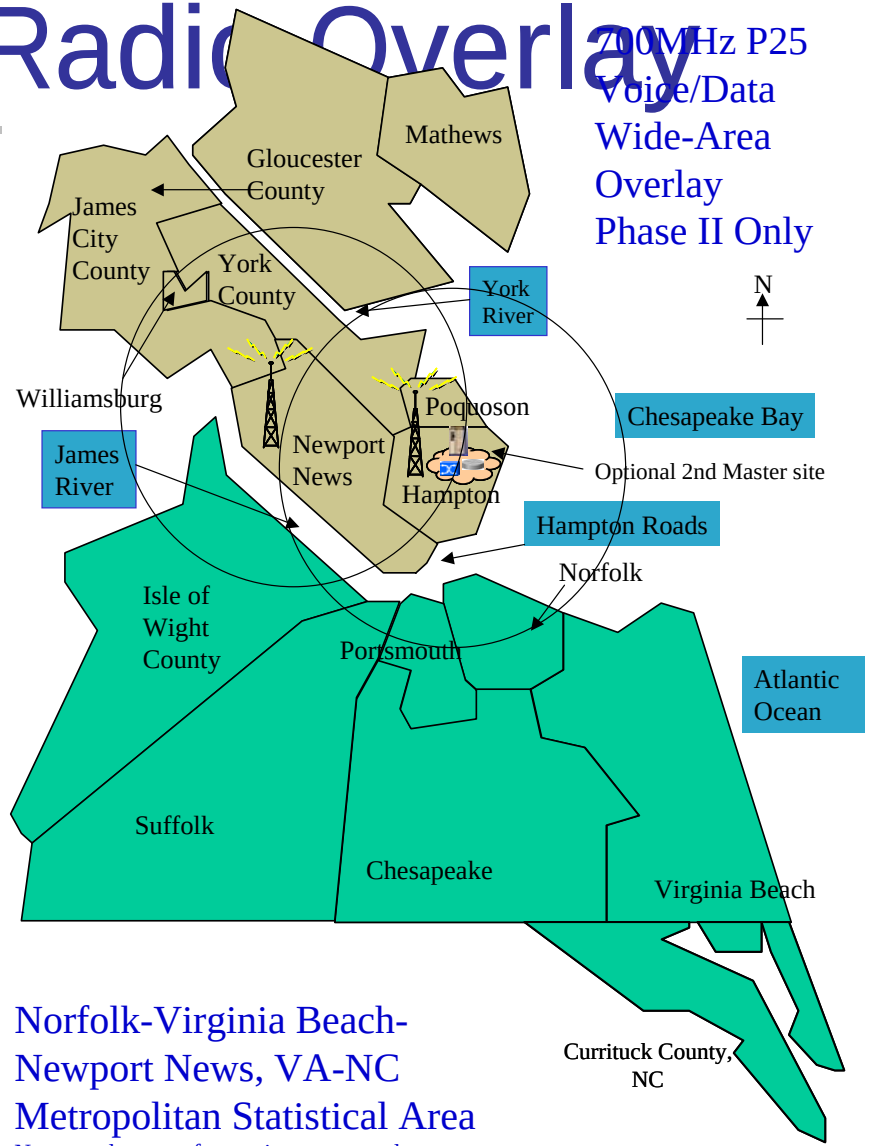
ORION
P25 Regional Radio Overlay

- Phase I - Southside
- 5 Site System
- P25 700MHz Transceiver
- Use Exist Tower Locations
- Mobile Coverage in Command Vehicles
- P25 Master Site in VB
- Supports 8 Simulcast Sites



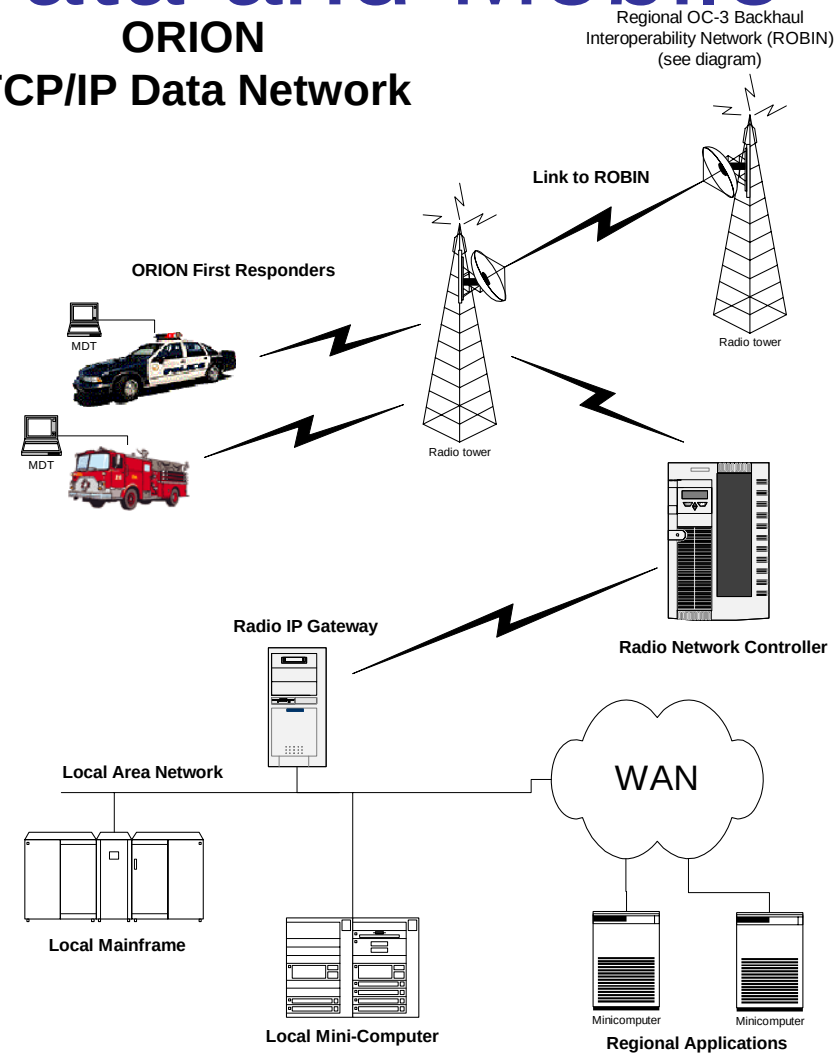
ORION
P25 Regional Radio Overlay

- Phase II – NN & Hampton
- 2 Additional Sites
- P25 700MHz Transceiver
- Use Exist Tower Locations
- Mobile Coverage in Command Vehicles

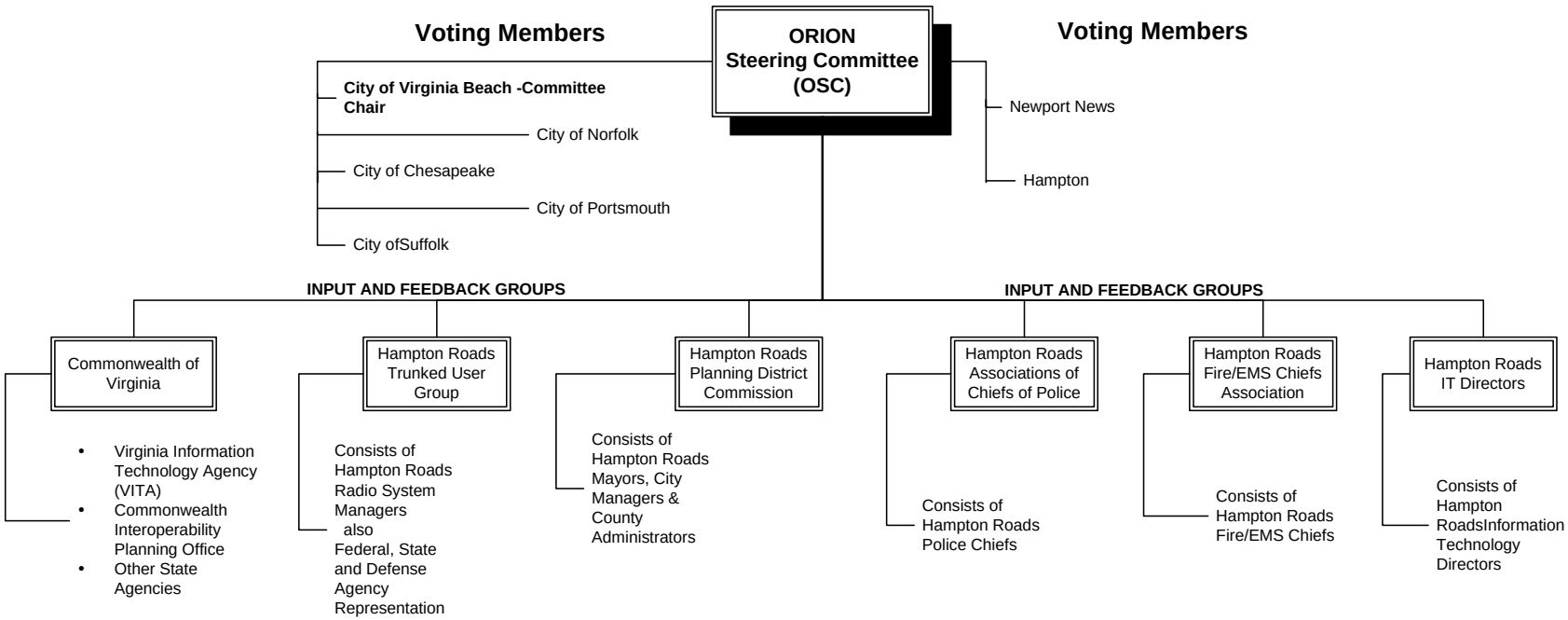


ORION
Improved IP Data and Mobile

- Phase I – Southside
- Phase II – NN & Hampton
- Sites TBD
- 900MHz Transceiver
- Use Exist Tower Locations
- Mobile Coverage in Command Vehicles



ORION
Steering Committee



ORION Timeline

COMPLETION DATE	ITEM/TASK
October 2004	Notice To Proceed – Kick Off Conference in Washington DC
October 2004	Kick-Off Meeting with Regional Steering Committee
October 2004	Requirements confirmed ORION via ORION Steering Committee (OSC)
October 2004	ORION member Coverage Analysis Started
November 2004	Specification for Engineering Study Completed
December 2004	OSC Project Meeting
December 2004	PE Awarded Engineering Study & System Design
January 2005	OSC Project Meeting
February 2005	Engineering Study & Design Complete
March 2005	Engineering Study Analysis by Interoperability Steering Committee
March 2005	OSC Project Meeting
April 2005	Specification and SOW Complete for P25 Master Switch, Backbone System, Radio IP Gateway and Subscribers
May 2005	OSC Project Meeting
June 2005	Complete RFP for ORION
June 2005	RFP Issued
July 2005	OSC Project Meeting
August 2005	OSC Project Meeting
September 2005	ORION RFP Awarded
September 2005	Contract Awarded
October 2005	OSC Project Meeting
October 2005	Design Review
November 2005	Infrastructure Equipment Staged & Shipped
November 2005	OSC Project Meeting
December 2005	Installation of Switch, Tower Site, and Subscriber Equipment
December 2005	OSC Project Meeting
January 2006	Installation Complete
February 2006	Testing and Final Acceptance of System
February 2006	OSC Project Meeting
February 2006	Initial ORION System complete

ORION
Other Possible Systems

- Digital TV Mobile Data System
  - Relationship with WHRO, Region and HRPDC
  - Content Delivery System to the Vehicle
    - Amber Alert
    - Video
- Radio IP System
  - Interface to existing radio system to IP enable

Open Discussion